

REMARKS

Applicant thanks the Examiner for the continuing allowance of claims 39 and 40, and the continuing indication that claim 9 is allowable.

Claims 1-21, 23, 28-29, 34-40, and 42-43 were examined, and are again presented for consideration in light of the remarks below. Claims 1, 14, 21, 38, 39, and 40 are independent.

As a summary, Applicant submits that the Office Action has failed to adequately find the claimed recitations in the prior art and has, rather, overgeneralized the description of the prior art and used impermissible hindsight to combine the overgeneralized prior art. This description of the Office Action's error is supported by the Office Action's admission that the prior art does not describe each of the recitations, and by the fact that the combinations put forth in the Office Action would not work.

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan (Phase-lock Basics) in view of Ims (3,751,979). Applicant respectfully traverses the rejection for at least the reasons that, as summarized above and discussed below, (1) Egan and Ims do not disclose or suggest all of the recitations of claim 1, and (2) there is no motivation for the combination.

Regarding the limitations of claim 1, the Office Action admits that neither Egan nor Ims discloses each of the recitations of independent claim 1 (Office Action, page 15, stating that "[t]he Examiner asserts that the limitation [of claim 1] ... is not met by the references individually") (emphasis added). Rather, the Office Action states that the limitations are "met by the combination of Egan and Ims" (Office Action, page 15). Applicant respectfully submits that this is an improper manner of establishing a *prima facie* case of obviousness, and requests that the Examiner provide a reference for each of the recitations and a motivation to combine the new reference(s) with both Egan and Ims. The Manual of Patent Examining Procedure ("MPEP") requires that "[t]o establish *prima facie* obviousness ... all the claim limitations must be taught or suggested by the prior art" (MPEP 2143.03, emphasis added). The combination asserted by the Office Action is not part of the prior art; only the references are prior art. Accordingly, the combination cannot be looked to for the required teaching or suggestion of the missing claim

limitations. The Office Action has overgeneralized the teaching of Ims to the point where claim 1 is declared as obvious without the rigor of identifying claim 1's limitations in the prior art and identifying a motivation to combine the additional required reference(s) with Egan and Ims. The Office Action's approach has used impermissible hindsight to propose a modification of Egan that includes claimed features that are not taught or suggested by either Egan or Ims. E.g., Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138 (Fed. Cir. 1985) (stating that the invention and the prior art must not be viewed with "the blueprint drawn by the inventor").

More specifically, neither Egan nor Ims discloses or suggests at least "a first phase-locked loop . . . operable to lock into a frequency of an input signal" and "a second phase-locked loop . . . operable to lock into the frequency of the input signal" (claim 1, emphasis added). Rather, as explained in previous replies, Egan describes a single PLL that receives a single input signal, and that has its bandwidth response varied (Egan, section 9.2). Ims describes that rather than switch the input signal of a single PLL between two different input signals that are both present at the same time, two separate but identical PLLs may be used—one PLL for each of the two separate and distinct input signals that are both present at the same time (Figure 8; col. 16, lines 6-8).

Ims does not describe, as suggested by the Office Action, the general proposition of "includ[ing] two phase locked loops rather than modifying one phase locked loop" (Office Action, page 3); Ims does not modify a PLL—Ims uses two identical PLLs rather than split time on a single PLL between two different input signals that are both present at the same time. Applicant urges that the Examiner must find a reference showing, at least, a single input signal being switched into two different PLLs, and a motivation to combine such a reference with Egan's teaching of the different bandwidth characteristics. Finding references for each of a claim's recitations, and finding motivations for combining those references, is the safeguard "against the subtle but powerful attraction of a hindsight-based obviousness analysis" (In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999)).

Regarding the Office Action's asserted motivation to combine Egan and Ims, Applicant submits that the combination of Egan and Ims would not work, because, in part, of the insufficient teaching of Ims. The Office Action proposes to modify Egan's single PLL

architecture to create two separate PLLs that both receive a common input signal, and then to switch between the two separate PLLs. However, such a modification would result, presumably, in Egan switching the input signal into the wide bandwidth PLL from the narrow bandwidth PLL upon loss of lock in the narrow bandwidth PLL, and switching the input signal back to the narrow bandwidth PLL at some point later. However, there is no indication that Egan's narrow bandwidth PLL would ever regain lock. In order to operate as intended by Egan, the combination would need some mechanism to ensure that the narrow bandwidth PLL regains lock. In Egan's single-PLL architecture, the single-PLL changes from wide bandwidth to narrow bandwidth after the PLL regains lock (Egan, section 9.2), but in the proposed combination the wide bandwidth operation is separated from the narrow bandwidth operation by putting each operation into a separate PLL, and the PLL with the separated narrow bandwidth operation has no mechanism to ensure that lock is regained. Applicants describe such a mechanism, but neither Ims nor Egan does.

One such mechanism is recited in claim 23, discussed below. Contrary to the Office Action's assertion, the additional reference applied in the rejection of claim 23 does not describe the claimed mechanism.

Claims 23, 28, and 43, each of which depends from either claim 1 or claim 21, stand rejected as being unpatentable over Egan, Ims, and Thompson (4,463,612), and further in view of Yatsuzuka (5,128,625). Applicant respectfully traverses the rejection for at least the reasons discussed above with respect to claim 1, and discussed below with respect to claim 21. Neither Thompson nor Yatsuzuka are cited as disclosing or suggesting the missing limitations of either claim 1 or claim 21 and, further, the applied portions of Thompson and Yatsuzuka do not cure the deficiencies of Egan and Ims.

Additionally, Yatsuzuka does not disclose or suggest, at least, "providing the output signal of the first PLL to the second PLL as a center frequency of the second PLL to assist lock-in by the second PLL" (claim 23) in the context of claim 21. The Office Action focuses too narrowly on the recitations of claim 23, ignoring the interaction with the recitations of independent claim 21 from which claim 23 depends. Claim 23 adds the above-quoted "center frequency" recitation to the invention of claim 21. Thus, to establish a *prima facie* case of

obviousness, the combination that the Office Action puts forth must be operable to perform the recitations of claims 21 and 23 together. However, the combination is not so operable.

The Office Action uses Yatsuzuka to show a first PLL performing an initial training mode and providing a center frequency to a second PLL that performs "the conventional process" (Office Action, page 11). The Office Action appears to acknowledge, correctly, that Yatsuzuka's first PLL does not perform "the conventional process." However, claim 21 requires that the two recited PLLs both perform the conventional process in that claim 21 recites "switching an output of the signal processor from an output signal of the first PLL to an output signal of the second PLL ... and switching the output of the signal processor from the output signal of the second PLL to the output signal of the first PLL" (claim 21). Thus, both claims 21 and 23 require that the output of the signal processor switch from the first PLL output to the second PLL output, and switch from the second PLL output to the first PLL output. Yatsuzuka's second PLL is dedicated to performing the initial training mode and the asserted combination does not, therefore, have an output that is switched to or from the output of the dedicated PLL.

As with claim 23, claims 28 and 43, which depend from claim 1, also require that the two recited PLLs both perform a conventional process. Specifically, each of claims 28 and 43 requires "a switch operable to switch an output signal ... between the first output signal [of the first phase-locked loop] and the second output signal [of the second phase-locked loop]" (claim 1). Similar to claim 23, claims 28 and 43 each add that "the second phase-locked loop includes a center frequency input ... coupled to the first output signal" (claims 28 and 43). For at least the reasons discussed above with respect to claim 23, Applicant submits that the proposed combination with Yatsuzuka's dedicated training-mode PLL does not meet the recitation of claims 28 and 43.

Claims 14-19 and 37, each of which depends from claim 14, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan, Ims, and Thompson, and further in view of Vignos (5,576,497). Applicant respectfully traverses the rejection for at least the reason that, as explained in the above discussion of claim 1, there is no motivation to combine of Egan and Ims. Further, for reasons similar to those discussed above with respect to claim 1, neither Egan nor Ims discloses or suggests at least the recitation of multiple "phase-locked loops (PLLs) having

different characteristics from each other and operable to receive the flow sensor signal and lock onto the flow sensor signal” (claim 14). Thompson and Vignos are not applied for this limitation and, further, the applied portions of Thompson and Vignos do not cure the deficiencies of Egan and Ims.

Claims 3-5, 8, 13, 21, 34, 35, and 42, each of which depends ultimately from claims 1 or 21, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan in view of Ims and further in view of Thompson. Applicant traverses the rejection.

With regard to those claims depending from claim 1, Applicant respectfully traverses the rejection for at least the reasons discussed above with respect to claim 1. In addition, Applicant notes that Thompson is not applied for the limitation discussed above with respect to claim 1 and, further, the applied portions of Thompson do not cure the deficiencies of Egan and Ims.

With regard to claim 21 and those claims depending from claim 21, Applicant respectfully traverses the rejection for at least the reason that, as explained in the above discussion of claim 1, there is no motivation to combine Egan and Ims. Further, for reasons similar to those discussed above with respect to claim 1, neither Egan nor Ims discloses or suggests at least “locking into a frequency of the input signal using the first PLL” and “locking into the frequency of the input signal . . . using the second PLL” (claim 21). Thompson is not applied for this limitation and, further, the applied portions of Thompson do not cure the deficiencies of Egan and Ims.

Claim 38 and claim 20 (which depends from claim 1) both stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan, Ims, Thompson, and Vignos, and further in view of Ito (4,201,084). Applicant respectfully traverses the rejection.

With respect to claim 20, Applicant respectfully traverses the rejection for at least the reasons discussed above with respect to claim 1. In addition, Applicant notes that neither Thompson, Vignos, or Ito are applied for the limitation discussed above with respect to claim 1 and, further, the applied portions of Thompson, Vignos, and Ito do not cure the deficiencies of Egan and Ims.

With respect to claim 38, Applicant traverses the rejection for at least the reason that, as explained in the above discussion of claim 1, there is no motivation for the combination of Egan

and Ims. Further, for reasons similar to those discussed above with respect to claim 1, neither Egan nor Ims discloses or suggests at least the multiple-PLL recitation of "phase-locked loops (PLLs) having different characteristics from each other and operable to receive the flow sensor signal and lock onto the flow sensor signal" (claim 38). Thompson, Vignos, and Ito are not applied for this limitation and, further, the applied portions of Thompson, Vignos, and Ito do not cure the deficiencies of Egan and Ims.

Claims 29 and 36, each of which depends ultimately from either claim 1 or claim 21, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan, Ims, and Thompson, and further in view of Lew (5,493,915). Applicant respectfully traverses the rejection for at least the reasons discussed above with respect to claims 1 and 21. Further, the applied portions of Thompson and Lew are not applied to cure, and do not cure, the deficiencies of Egan and Ims.

Claims 6 and 7, each of which depends from claim 1, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan, Ims, and Thompson, and further in view of Bouillet (6,298,100). Applicant respectfully traverses the rejection for at least the reasons discussed above with respect to claim 1. Further, the applied portions of Thompson and Bouillet are not applied to cure, and do not cure, the deficiencies of Egan and Ims.

Claims 10-12, each of which depends from claim 1, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egan, Ims, and Thompson, and further in view of Henry (5,570,300). Applicant respectfully traverses the rejection for at least the reasons discussed above with respect to claim 1. Further, the applied portions of Thompson and Henry are not applied to cure, and do not cure, the deficiencies of Egan and Ims.

For brevity, and to focus on the new arguments, Applicant has not repeated the arguments from the previous replies, but does hereby incorporate those arguments by reference.

For at least the above reasons, Applicant respectfully submits that the pending claims are allowable over the applied art and requests that the Examiner withdraw the current rejections and allow the pending claims.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment, including the Office Action's characterizations of the art, does not signify agreement with or concession of that rejection,

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Serial No. : 09/921,293
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Page : 17 of 17

Attorney's Docket No.: 02052-100001 / 00,012

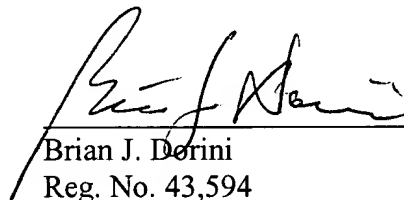
issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation. Applicant reserves the right to prosecute the rejected claims in further prosecution of this or related applications.

Applicant renews the November 29, 2004, request that the Examiner consider and initial references BG and AM that were originally filed on February 24, 2004. In the November 29 filing, Applicant supplied another copy of reference BG and noted that the Examiner considered reference AM, but did not initial it, in a prior Office Action. As all references listed in the February 24, 2004, IDS were supplied to the Examiner, it is again respectfully requested that the Examiner consider and initial references BG and AM.

No fees are believed to be due. Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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